

# **Logiturn® III**

## **Installation Manual**

for  
**ECCO Full-Height Turnstiles**



[illegible]

## Contents

<b>1 Explanation of symbols.....</b>	<b>5</b>
1.1 Warnings .....	5
1.2 Information .....	5
<b>2 General information .....</b>	<b>6</b>
2.1 About this document .....	6
2.2 Operating safety .....	6
2.3 General safety instructions.....	7
2.4 Reoccurring checks and maintenance .....	7
<b>3 Logiturn® .....</b>	<b>8</b>
3.1 Logiturn expansion components are: .....	8
<b>4 Setup and Installation of an ECCO turnstile .....</b>	<b>10</b>
4.1 Installation steps.....	10
4.2 Changing the locking direction in power-off mode .....	17
4.3 Instructions for the roof installation.....	19
<b>5 Electrical installation instructions.....</b>	<b>20</b>
5.1 Power supply.....	20
5.2 Protective grounding .....	20
5.3 Connecting cables .....	21
5.4 Connection of operating devices.....	21
5.4.1 "Mini-GTC" software control panel .....	22
5.4.2 Hardware control panel.....	23
<b>6 Control functions .....</b>	<b>25</b>
6.1 Connecting a card reader, coin acceptor or other release mechanisms as well as different command message devices .....	25
6.1.1 Contact inputs: .....	25
6.1.1.1 Connection example release via peripheral device .....	26
6.1.1.2 Connecting a fire alarm system.....	27
6.1.2 Logic outputs .....	27
6.1.2.1 Plug allocation for signal lights and lane signals:.....	27
6.1.2.2 Signal lights .....	28
6.1.2.3 Two direction-related signal lights with prompt symbols .....	28
6.1.2.4 Connection of a release signal light with external power supply .....	28
6.1.2.5 Feedback signal, counter, error, alarm.....	30
6.2 Expansion board.....	32
6.3 Basic settings .....	32
6.3.1 DIP switch settings .....	32
6.3.2 [DIP 1...3] Turnstile ID .....	33
6.3.3 [DIP 4] Changing the locking direction in power-off mode.....	33
6.3.4 [DIP 5] Toggle configuration from 2Arm (180°) to 4Arm (90°) division.....	33
6.3.5 [DIP 6] Direction of rotation.....	33
6.3.6 [DIP 7] Test and initialization runs.....	34
6.3.7 [DIP 8] RM4 = Alarm.....	34
6.4 Parameter .....	35
6.4.1 Parameter menu for turnstile.....	35
6.4.2 Parameter values and functions .....	36
6.4.2.1 Anti Pass-Back Logic .....	40
Anti Pass-Back Logic .....	40
6.4.3 Factory settings .....	41
6.5 Errors and warnings .....	43
6.5.1 LED error indicator:.....	43

6.5.2 Error types.....	44
6.5.3 Troubleshooting .....	45
6.5.3.1 To-do lists .....	45
6.5.3.2 Replacement parts .....	46
6.5.4 Warnings .....	47
<b>7 Hardware controls .....</b>	<b>48</b>
7.1 Turnstile control unit.....	48
7.1.1 Block schematic diagram .....	48
7.1.2 Control board (layout for HW rev.4) .....	49
7.1.3 Connection terminals .....	50
7.2 Expansion board.....	52
7.3 Control panel.....	52
<b>8 General troubleshooting.....</b>	<b>53</b>
8.1 Semiconductor outputs are not functioning: .....	53
8.2 Problems during turnstile startup .....	53
8.3 Problems with communication .....	53
8.3.1 RS-485 interface .....	53
8.3.2 Problems with the test runs .....	53
<b>9 CE Declaration of Conformity.....</b>	<b>54</b>

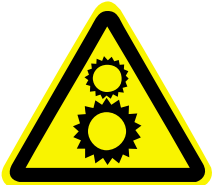
## 1 Explanation of symbols

Warning signs warn against actions and situations that may pose a danger to persons and/or equipment. These are indicated by a warning triangle to the left of the text column. **Warning signs must be observed in order to retain warranty rights and claims.**

### 1.1 Warnings



**Danger:** This symbol warns of danger that may cause bodily injury, as well as equipment damage.



**Danger:** Danger caused by rotating parts. Disconnect the device from the power supply when working in close proximity of these parts.



**Danger:** Danger caused by electrical energy. Do not touch these parts unless the power supply to the device has been disconnected.



**Warning:** Electrostatically sensitive components. Discharge hands against grounded metal parts before contact with the affected components. Control boards may not be removed from the metal housing. The device must be connected to the protective grounding before the protective cover of the control unit (yellow cover) is removed.

### 1.2 Information



This provides important additional information in cases in which there is no danger to personnel or equipment.

The manufacturer

Karl Gotschlich Maschinenbau GesmbH  
Feistlgasse 6, 1210 Vienna, Austria  
0043/1/259 65 18 0\*  
Fax 0043/1/259 65 18 6

## 2 General information

### 2.1 About this document

This is a combined manual for the product ECCO Logiturn.

This manual was designed mainly for IBN technicians and product users who are already familiar with the products of the Logiturn family and their basic functions.

In addition to this manual, other installation instructions and operating instructions of the individual product components are available as listed in the table below.

Title	Version	Note
Hardware control panel for turnstiles and revolving/swing gates (for manual operation)	V3.3	Technical Description
Hardware control panel User operating instructions	V11.0	Designed for reception personnel, cashiers, etc.
Logiturn Mini-GTC operating software for turnstiles and revolving/swing gates	V2.1	For configuration and servicing purposes
Logiturn expansion board	V3.1	Option
Power supply installation manual	V1	Connects to the power supply
Copying of the parameter and update of firmware	V1.5	For use with the HWBT (hardware control panel)
Lane signals and signal lights	V6.4	Installation and par. manual

### 2.2 Operating safety



**The set-up** should only be carried out by trained technicians. Assembly should only be carried out by installers who are familiar with the equipment and have been trained accordingly.

All electrical connections that are not within the low safety voltage range – primarily the input leads for applying the supply voltage – must be carried out by a licensed electrician.

## 2.3 General safety instructions



- **Operating personnel** should be trained based on the “Hardware control panel user operating instructions” during commissioning and then retrained on a regular basis.
- **The turnstiles should only be operated according to their intended use.**  
For example: A turnstile is only intended for the passage of a person. Using it as a child's toy or as a passage for bulky objects is not permitted.
- If a malfunction occurs, the device must be immediately taken out of service by switching off the power supply and by mechanically locking the locking drum.

**Malfunctions are present, if the arms:**

- do not stop at the home position,
- continue to rotate without authorization or being triggered by a person
- have uncontrolled movements

**or, if**

- the obstacle detection system (pressing of a trailing arm against a passing person) is not activated, or only activated with unacceptable high force.
- visual mechanical damages on the turnstile do not allow risk-free use any more.

Repairs must first be made before being put back into service.  
Unintended restart prior to maintenance must be ensured.

- **Soiling** due to iron-containing dust, abrasive dust or similar during the construction phase can lead to surface damage (corrosion seeds).

## 2.4 Reoccurring checks and maintenance



The turnstile is part of the "power operated doors" product group and must be checked for safe functioning and serviced at least 1\* per year according by an expert according to the Work Equipment Regulation (AM-VO). Written records must be kept for the checks e.g. plant test book.

### 3 Logiturn®

is a registered trademark for a microprocessor control unit, which has been developed for Gotschlich turnstiles, gates and motor-powered revolving/swing gates. This control unit has major expansions and add-on modules available.

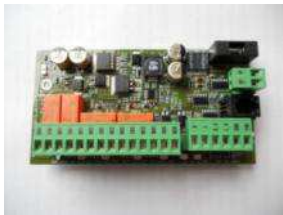


This control unit can be set by changing a wide range of parameters for different customer requirements and product use. This enables Gotschlich turnstiles to be customized quickly to customer requirements, without additional components and be flexibly integrated into the access control system.

#### **Logiturn III**



is a further development of the hardware and software and contains the following expansions:

- 2 semiconductors for the direct connection of LED release signals
- 2 semiconductors for the connection of LED lane signals with symbols
- 2 further optical coupler inputs at the expansion board
- the overvoltage capability and the suitability for unstable grids (voltage and frequency fluctuations) have been increased with respect to supply voltage.

#### **3.1 Logiturn expansion components are:**

Item no.	Component	Illustration
2P404-N 2P405-N	Expansion boards: with 4 relay outputs with 4 optical coupler outputs (each with a battery charger and RS232 interface and 2 optical coupler inputs)	
2P511A-N	Power-off lock mechanism  Locks during power outage, locking direction can be selected during commissioning.	
8P408S-N  8P407-N	Control panel for operation, parameter setting and for service work  Desk console (optional)	



8P502-N	PC software package for operation and parameter setting (includes a program CD, data cable and protocol adapter)	
2P811	Turnstile control panel connection cable  See Chapter 5.3.	
8P416-N	UPS 2.1Ah for LOGITURN 3 Includes 2P404-N, and emergency power of at least 4h	
8P406-N	UPS 10Ah for LOGITURN 3 Includes 2P404-N, and emergency power of at least 14h	
3P321	BUFFER BATTERY 2.1Ah for LOGITURN 3 Replacement battery pack	
3P330	BUFFER BATTERY 10Ah for LOGITURN 3 Replacement battery pack	

## 4 Setup and Installation of an ECCO turnstile

### 4.1 Installation steps

The following tools are required for work:



Supply of the wrapped turnstile, ready for function, tested and attached to a pallet.



Step 1: Remove packaging foil; check the turnstile for transport damages



Step 2: Remove the gearbox cover plate using a 4mm hex wrench. The screws are alternately loosened until the gearbox cover plate can be removed.





Step 3: The rotor is loosened from the flange.



Step 4: The rotor is lifted from the turnstile, the transport pins are removed from the pallet.



Step 5: The turnstile should be secured using a forklift or other lifting device. The belts should be tightened.



The turnstile must be secured against tipping over prior to performing any further assembly steps!



Step 6: Loosen the cover plate and unscrew the feet from the pallet.

Two versions are available to attach the turnstile to the substructure.

**Version 1, the steel consoles are installed on the foundation. The steel consoles reach to the floors upper edge.**



Step 7A: The steel consoles are positioned using a template and drilled out. Thereafter the consoles are positioned with the washer in the scale, doweled and the template is removed.



**Version 2, base plate =FFOK=0. Installation onto an exposed concrete surface.**



**Step 7B:** Using a template, the borings are made and dowels are placed. The template is removed.



**Step 8B:** The floor support is installed.

The following illustrations show the further installation possibilities, whereby the steel consoles were placed acc. to version 1 and the floor set-up is complete.





**Step 8A:** After installing the consoles the floor structure is completed up to the upper edge of the consoles and the floor support is installed on level ground using 2 washers.



**Step 9:** The turnstile is lifted from the pallet as a complete portal and positioned on the prepared set-up location. The cable leads are guided through the base prior to moving.





Step 10: The portal is placed in both axis in the scale and also leveled using washers. The base pedestals are also bolted.



Step 11: The connection to the central ground is provided. Thereafter place the supply voltage on the terminals.

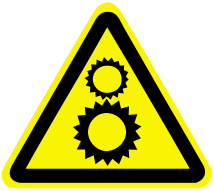


The connection to the central ground as well as to the voltage supply must be made by an authorized licensed electrician and the bleeder resistor is checked.



Step 12: Bolt the covers of the support pedestals and lubricate the bearing pins.





**Danger:** Danger caused by rotating parts. Disconnect the device from the power supply when working in close proximity of these parts. In particular, it must be ensured that a second person, installer assistant, does not move the arms of the turnstile and thereby power the locking unit while in proximity of the moving parts.



Step 13: Place the rotating drum on the bearing pins and rotate in a manner that the index borings (ARROW) are flush with a row of the arms. On drives with the option "Power-off lock mechanism" check the locking direction and if required adjust as described in Chapter 4.2.



Step 14: Bolt the rotating drum flange to the drive shaft, check if the rubber elements of the gear seat plate have sufficient play upwards and downwards. The rotating drum must be able to be lifted together with the gear about 5mm. The rotating drum must be manually rotatable when the turnstile is in a currentless state.





Step 15: Position the support legs of the guide rails, under pressure, against the finished floor and secure using counter nuts. Remove the yellow cover on the Logiturn® control unit.

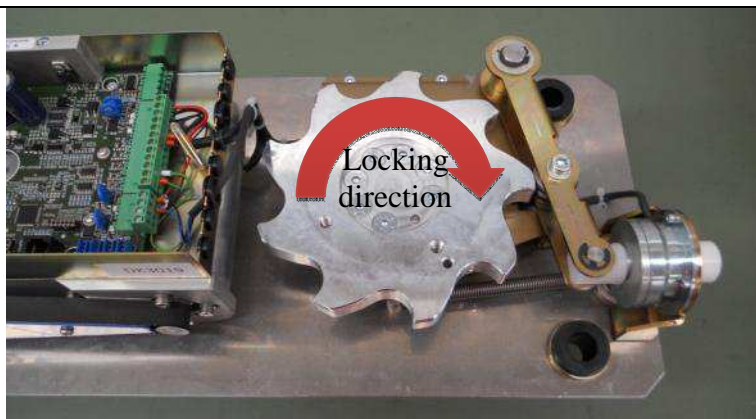


Step 16: Perform a function check using the control panel. The parameter values can be adjusted to the conditions during "Parameter" mode, also refer to the "Hardware control panel" operating instructions. Check the locking direction while in power-off mode and change if required according to the description in the following Chapter 4.2. Set the entrance and exit direction according to the requirements at the installation site using DIP switch 6, refer to Chapter 6.2.5. Connect the card reader or other release devices. Subsequently, install the gearbox cover plate.

## ***4.2 Changing the locking direction in power-off mode***

**Loosen the 7 pcs. of ISK counter-sunk screws, lift the ratch wheel, turn and bolt down again.**

**Pay attention to proper positioning of the index pin.**

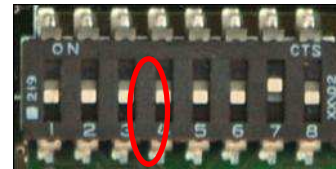
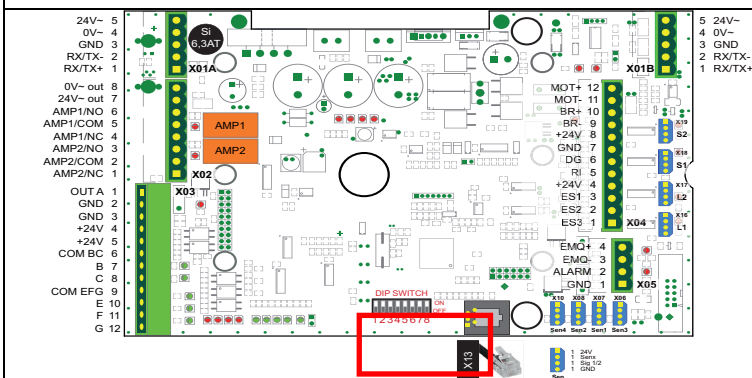


**DIP switch 4 = 0**

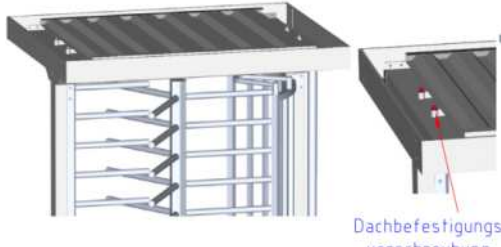
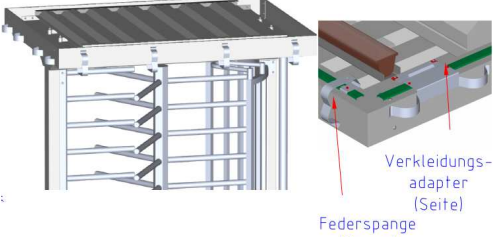
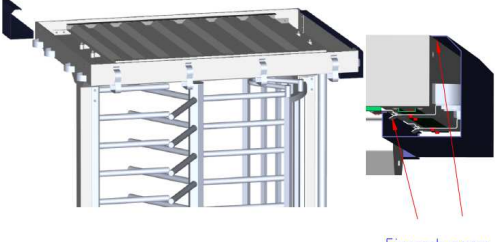
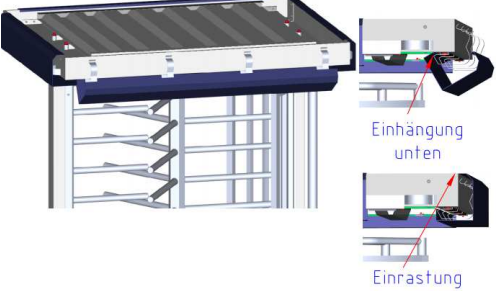
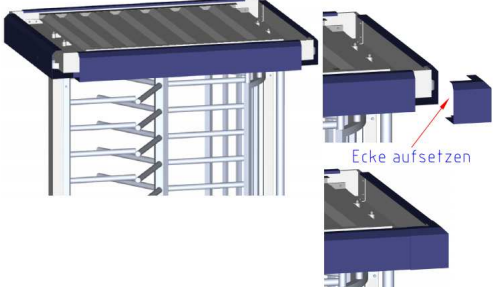



**DIP switch 4 = 1**

**Switch over DIP switch 4 during changes of the locking direction.**



### 4.3 Instructions for the roof installation

 <p>Dachbefestigungs- verschraubung</p>	<p>1. Step: Lift the basic roof construction onto the turnstile and bolt down in the indicated position (detail of bolting). <a href="#">Roof bolting</a></p>
 <p>Verkleidungs- adapter (Seite) Federspange (Vorne)</p>	<p>2. Step: Bolt down the spring clips and panel adapter to the roof underside onto the mounting rail using threaded clips and M5 socket head screws (detail of fastening). <a href="#">Panel adaptor (side)</a> <a href="#">Spring clip (front)</a></p>
 <p>Einrastungen</p>	<p>3. Step: Slide the lateral roof cladding profile over the springs of the cladding adapter. Watch for latching of the profile to the upper and lower roof edge (detail of latching). <a href="#">Latching</a></p>
 <p>Einhängung unten Einrastung oben</p>	<p>4. Step: Clip the face cladding profile below into the spring clip, then on upwards, press over roof edge. Watch for latching of the profile to the upper and lower roof edge (detail of installation steps). <a href="#">Mounting below</a> <a href="#">Mounting top</a></p>
 <p>Ecke aufsetzen</p>	<p>5. Step: Place cladding corners, drill holes on top and below for blind rivets in the cladding profile, place blind rivets (detail of installation steps). <a href="#">Place corner</a></p>
 <p>Verschraubung</p>	<p>6. Step: Bolt the bottom view cladding panels to the cladding adapter (insert M5 threaded clip) using M5 counter-sunk screws (detail of bolting). <a href="#">Bolting</a></p>

## 5 Electrical installation instructions

### 5.1 Power supply

The power supply unit for the ECCO turnstile is integrated directly into the device housing. The power supply unit provides a low safety voltage of 24 VAC.

The power supply is 230 VAC, 50 Hz and 100 W peak performances per lane. The power supply line must be at least 3x1.5mm<sup>2</sup>.



Power supply on turnstile with Front Box



Power supply on turnstile where the power supply pack is located in the bridge

Detailed information can be found in the power supply installation manual.

### 5.2 Protective grounding

The turnstile housing must always be connected to the central ground with a corresponding base ground strip, ground rod (lightning arrester) or other corresponding connection. The ground wire in the power supply is not sufficient by itself!



**Respective national regulations must always be followed regarding this measure.**



### 5.3 Connecting cables

The "gray system cable" is a special cable that can be ordered from Gotschlich in the desired lengths.

Item no.	Electrical connection	Type	Max. length
2P811	Turnstile – control panel	Gray system cable	30m
	Contact inputs release	0.5mm <sup>2</sup> flex wire	30m
	Counter output, alarm output	0.5mm <sup>2</sup> flex wire	30m
	Fire alarm system contact input	0.5mm <sup>2</sup> flex wire	30m

### 5.4 Connection of operating devices

Up to 2 Logiturn® turnstiles can be connected to one control panel via the RS-485 data bus line or they can be controlled via a PC using the "Mini-GTC" software package and a converter. To do this, the data lines RXT+ and RXT- of all devices must be connected together. In addition, please also ensure that the potentials of the grounding points of all devices do not exceed a voltage difference of  $\pm 50V$ .



**Warning:** Electrostatically sensitive components. Discharge hands against grounded metal parts before contact with the affected components. Control boards may not be removed from the metal housing. The device must be connected to the protective grounding before the protective cover of the control unit (yellow cover) is removed.

The shield connections of the devices should be connected to one another via the shield drain wire of the system cable.

The connected turnstile control units must each be assigned a unique device ID (refer to Chapter 6.2.2).



The control panel can only be powered by the turnstile 1. The power supply of both turnstiles may not be linked together. **SHORT CIRCUIT OF BOTH POWER SUPPLIES!**

#### 5.4.1 "Mini-GTC" software control panel

The software control panel is a "Mini-GTC" software package programmed on an ACCESS user interface and can be installed on a PC or laptop using Windows XP.

The PC is connected via an interface converter to the turnstile control unit. Connection is provided via a RS-485 interface. Two converters with a RS-232 (V24) or with USB inputs are available.

The RS-232 or the USB connection cable between the PC and the converter should not be longer than 5 m. The other connection from the converter to the turnstile control unit is made via the RS-485 data line (2P811) and may be up to 30 m long.

The RS-232(V24) converter requires its own power supply of 24VDC. The USB converter is powered on the USB side.



A detailed manual is available for the installation and commissioning. **"Logiturn II Mini-GTC operating software for turnstiles and revolving/swing gates V2.1"**



Software package: "Mini-GTC"

Item no.	Component
8P501	With interface converter for RS-232 and 1.5 m data cable SUB-D9
8P502	With interface converter for USB and 1 m USB connection cable

### 5.4.2 Hardware control panel

The control panel is used to operate the turnstile and to display various feedback signals on the two-part display and also on the function keys via LEDs.

**Parameters can be changed using the control panel. Extensive support for commissioning, service purposes and maintenance is provided in the service menu.**

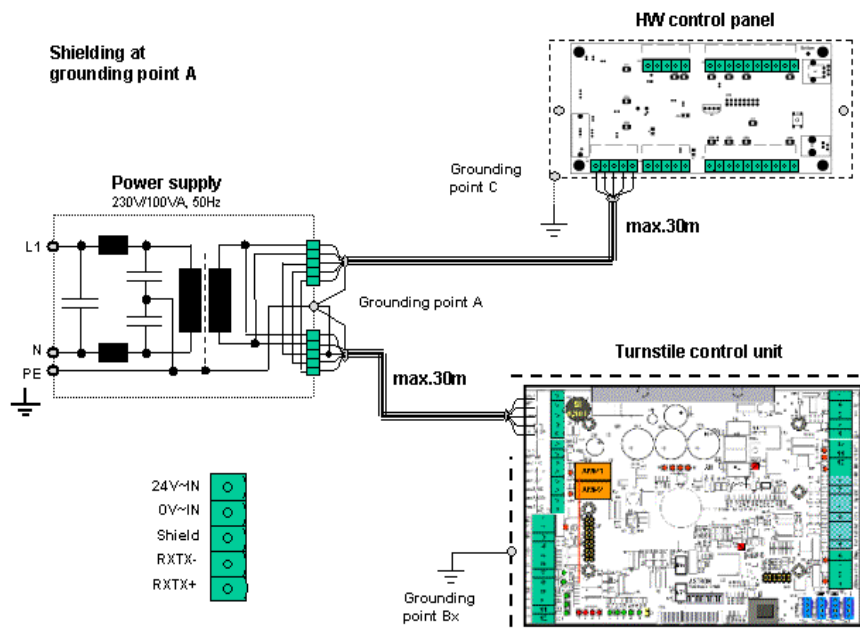
Item no.	Component	Illustration
8P408S-N	Control panel for operation, parameter setting and for service work	
8P407-N	Desk console (optional)	
2P811	Gray system cable for the connection of the turnstile - control panel	

The control panel is also powered by the 24V~ low DC voltage generated by the power supply unit.

The connection cable must be shielded following EMC guidelines.



The detailed operating instructions "**Hardware control panel for turnstiles**" are available for information on the installation and commissioning of the HWCP.  
 A separate "User manual" is available for the operating personnel to provide information for operating.



Simple configuration example: one turnstile with a control panel



The 2 ends of the RS485 interface line RXTX and RXTX+ are provided with a load resistor of 120 Ohm directly at the terminal points.



## 6 Control functions

### 6.1 Connecting a card reader, coin acceptor or other release mechanisms as well as different command message devices

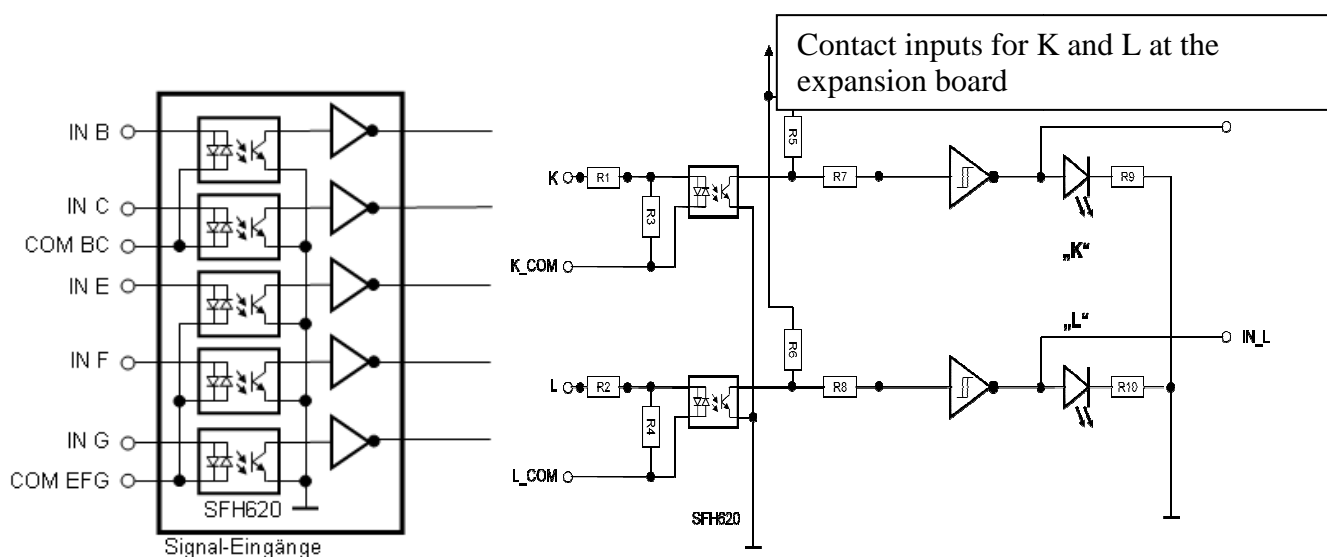
Logiturn® controls provide a multitude of connection possibilities for card readers, signal lights, lane signals or other periphery devices. All sorts of feedback signals, interfaces and ready indicators for building and safety equipment as well as fire alarm systems, for instance, are also available. The following inputs and outputs are available:

#### 6.1.1 Contact inputs:

Contact inputs B, C, E, F and G are potential-free inputs activated with voltage levels typically in the range of +12V...+24V or -12V...-24V to set or revoke a release to the turnstile. The two contact inputs K and L are available at the expansion board for special functions.

Entry	Function
B	Set release for entry direction, detailed function set with parameter 20
C	Same as B, but for exit direction, detailed function set with parameter 21
E	Same as B, detailed function set with parameter 22
F	Same as B, but for exit direction. Detailed function set with parameter 23
G	Revoke releases, set detail function with parameter 24.
<b>SPECIAL FUNCTIONS AVAILABLE ON THE EXPANSION BOARD</b>	
K	Alarm setting, preferred direction lane signal, toggle configuration par. 50
L	Alarm setting, preferred direction lane signal, toggle configuration par. 51

Contact inputs B, C, E and F are usually activated by the release signals of the peripheral devices. If the peripheral device has potential-free outputs (e.g., relay or optical coupler outputs), the ground potential must be connected with the associated COM terminal of the contact inputs and the +24V voltage is activated by potential-free contacts of peripheral devices. Inputs B and C and E, F and G have separate common terminals available.



### 6.1.1.1 Connection example release via peripheral device

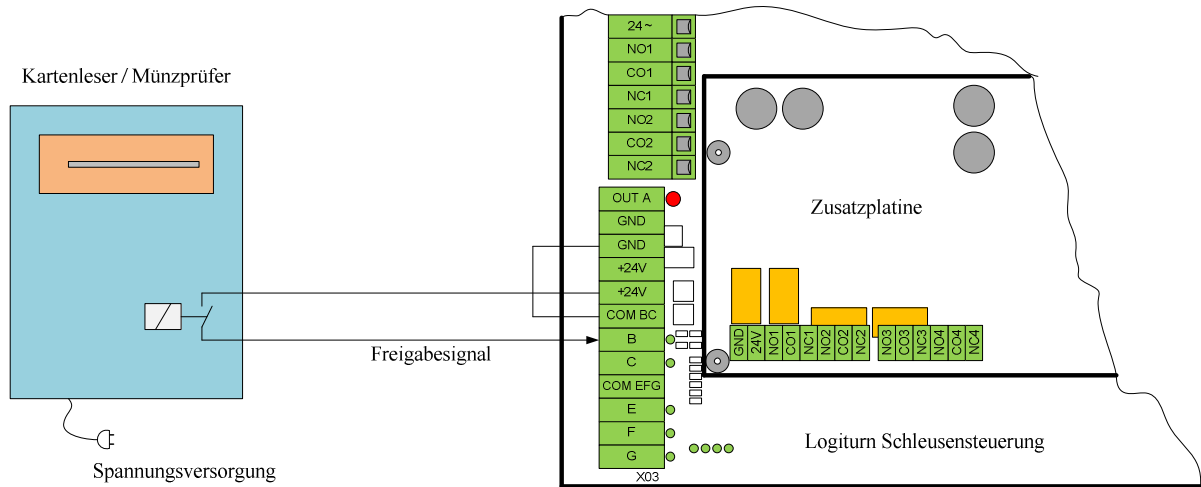


Fig. 1- Peripheral device with potential-free contacts

Kartenleser/Muenzpruefer=card reader / coin validator, Zusatzplatine = expansion board, Spannungsversorgung = voltage supply, Freigabesignal = release signal, Schleusensteuerung- gate control

Should no potential-free outputs (such as with a semiconductor switch) be available, then, depending on the type of the output stage, the COM terminal must be connected with the GND (Fig.22) or operating voltage (Fig. 23) of the reader.

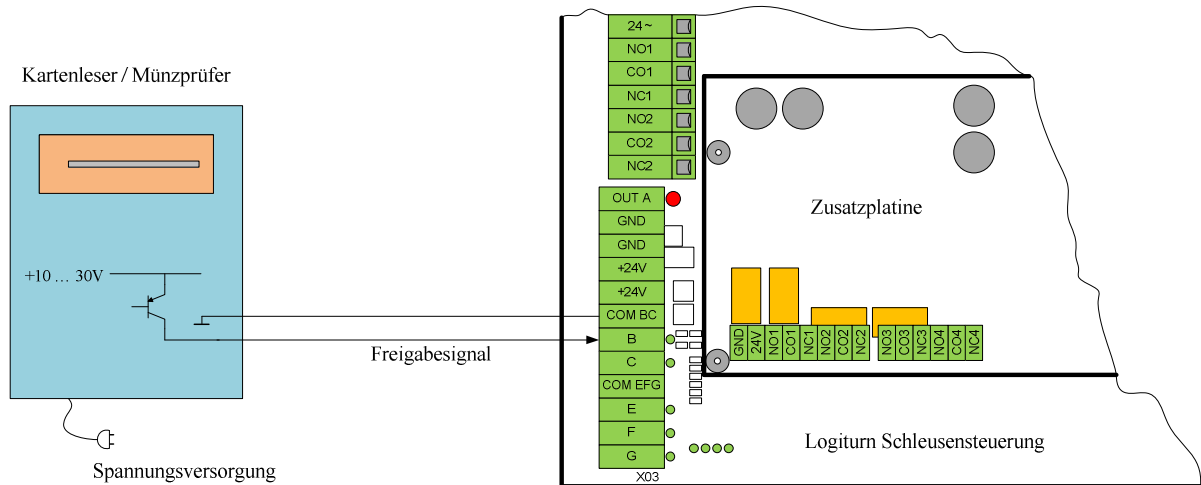


Fig. 2 - Peripheral device with PNP output

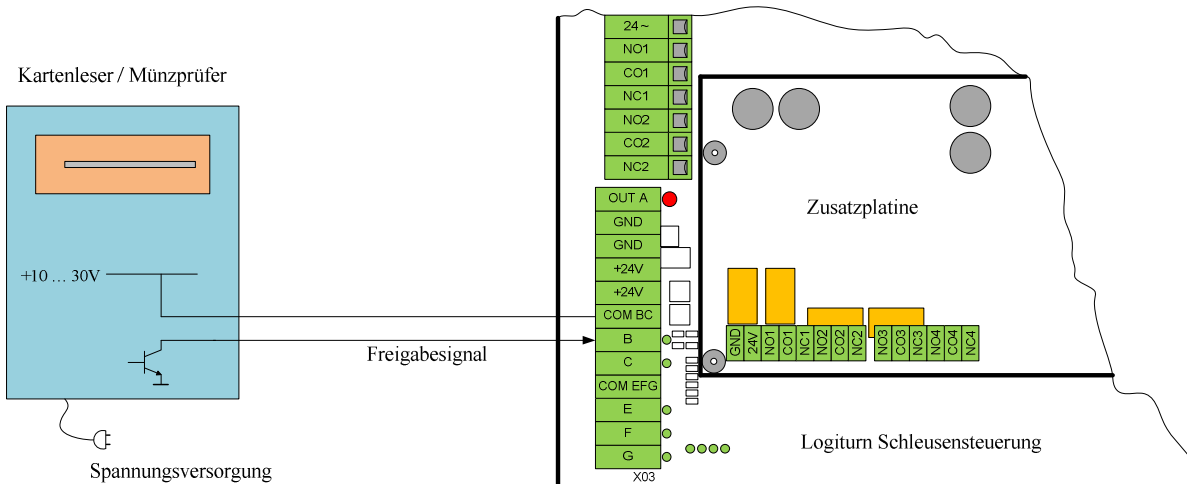


Fig. 3 - Peripheral device with NPN output

The COM\_BC and COM\_EFG lines make it possible to connect two groups of independently powered peripherals to the turnstile control unit.



Connections +24V are available exclusively for the optical coupler. The supply of external devices such as card reader and similar is not permitted!

### 6.1.1.2 Connecting a fire alarm system

Four signal inputs (B, C, E and F) as well as K and L are available on the expansion board for connecting a security system (fire alarm system, escape route terminal, emergency escape button, etc.) via parameter inputs. This can be triggered by both a closer as well as a break contact.

### 6.1.2 Logic outputs

Available on the basic control unit are:

2 relay outputs "AMP1" and AMP2" for feedback, or signal light control.

2 transistor outputs, terminal A for passage counter pulse and terminal "Alarm" for alarm and warning messages are available.

2 \*3semiconductor outputs for the control of the LED release signals.

2 \*3semiconductor outputs for the control of the LED lane signals.

A data interface RS-485 for connecting to the building control system.

Additional outputs are available on the expansion board, refer to Chapter 6.1.3.1.



A detailed manual "Installation Manual for signal lights and lane signals" is available. The following chapter is a summary and is reduced to the special design of the ECCO turnstile.

#### 6.1.2.1 Plug allocation for signal lights and lane signals:

Slot	Function	Direction assignment <b>DIP 6=0</b>	Direction assignment <b>DIP 6=1</b>
L1	"SIGNAL LIGHT" release signal	Entry direction	Exit direction
L2	"SIGNAL LIGHT" release signal	Exit direction	Entry direction
S1	Lane signal	Entry direction	Exit direction
S2	Lane signal	Exit direction	Entry direction

### 6.1.2.2 Signal lights

#### SIGNAL LIGHTS with symbols

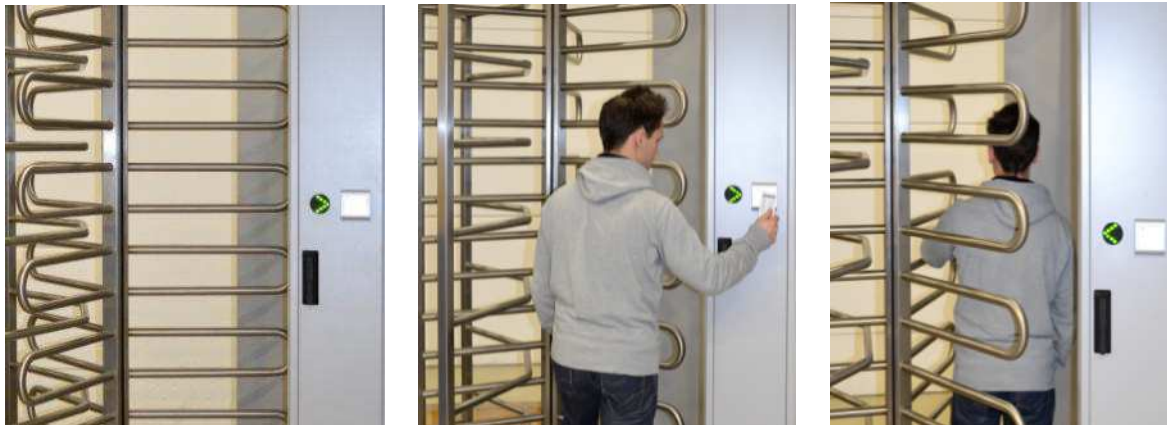
Article no.:	Type	Description	Variant
21764-N	L411104- V2	Flat installation	Installation in new device
21764-NA	L411104- V2	Flat installation	Retrofit installation

### 6.1.2.3 Two direction-related signal lights with prompt symbols

Appropriate parameter no. 48 value for this = 51

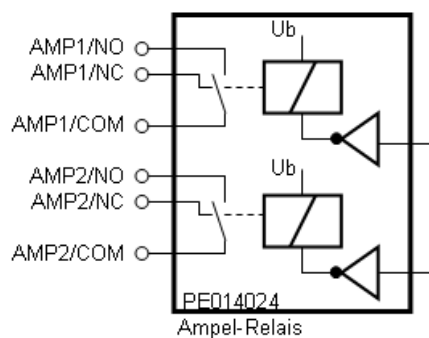
This example shows an ECCO turnstile with signal lights and card readers installed on the front door of each entrance side. One of the two green arrows is used to display the turnstile release.

The other arrow symbol is set up mechanically so that it refers to a card reader, coin deposit, button press or similar action. The arrow symbol is used as a prompt symbol. The use of this device is required to trigger a release of the turnstile. The prompt symbol flashes every 0.5s.



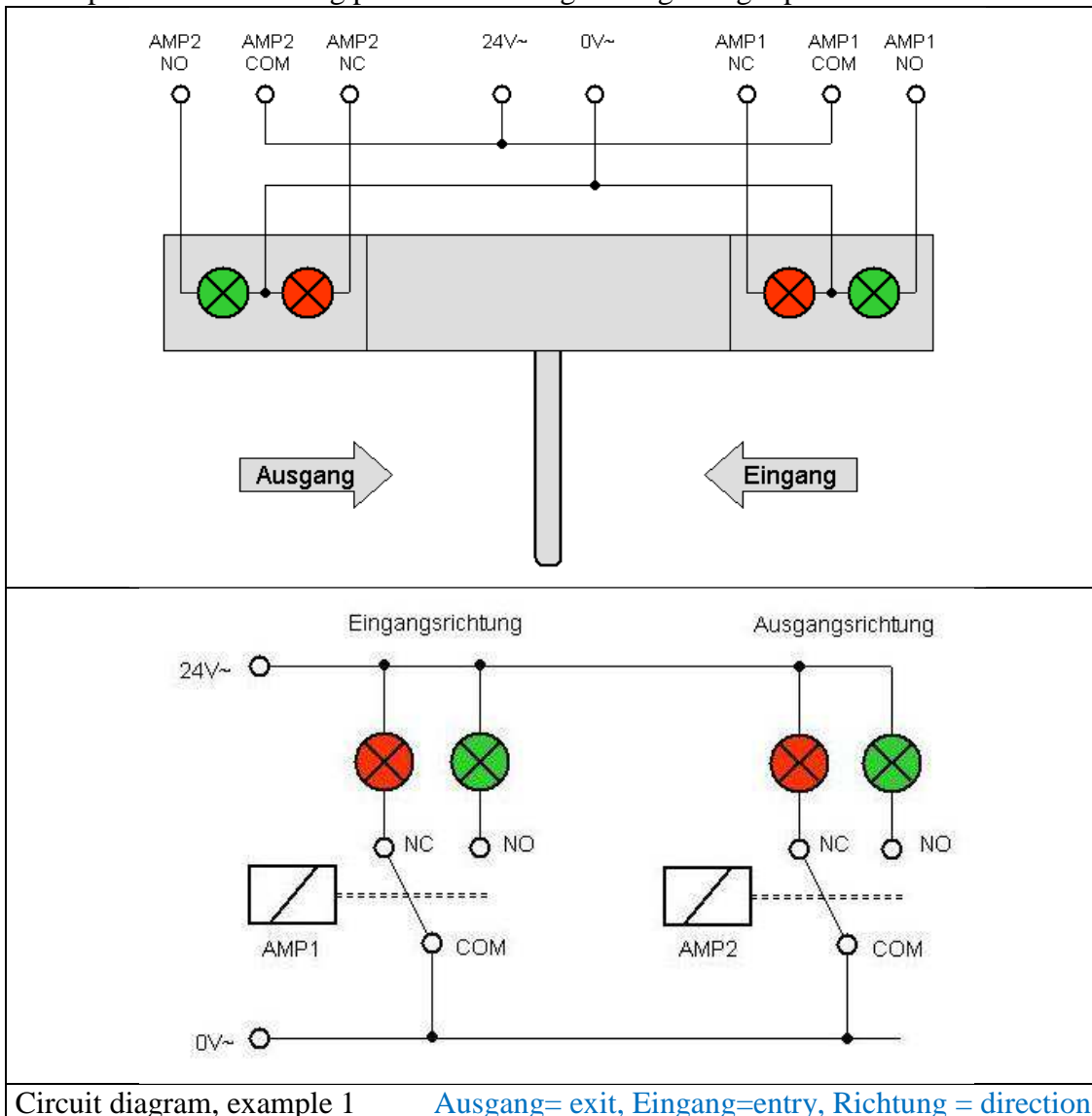
### 6.1.2.4 Connection of a release signal light with external power supply

Two relay outputs (AMP1/AMP2) are available for signal lights with higher output, or signal lights that are not compatible with standard LED signal lights.



Relay outputs block diagram    [Ampel-Relais = light signal relay](#)

Example 1 shows a wiring plan for one red/green signal light per traffic direction.



Circuit diagram, example 1 [Ausgang= exit, Eingang=entry, Richtung = direction](#)

For this wiring example, parameter 28 = AMP1 should be set to value 60 and parameter 29 = AMP2 should be set to value 70.

### Superordinate malfunction message

The signal light relays of the Logiturn control are alternately activated in 1 second cycles, if a malfunction (fault condition) occurs on the turnstile.

Terminals with 24VAC, 500mA max load are available at the turnstile control for the signal lights power supply.

Signals with higher output and voltage must be powered externally. The maximum switching capacity of relay AMP1 and AMP2 is 50VAC, 5Aeff.

### 6.1.2.5 Feedback signal, counter, error, alarm

**Feedback signal relays (RM1 to RM4) are available on the expansion board.** These are defined via parameters 30 to 33. RM4 can also be switched to a potential-free alarm output via the DIP switch 8 and is synchronized with alarm output. The expansion board is available in one version with relay contacts and another version with optical coupler outputs.

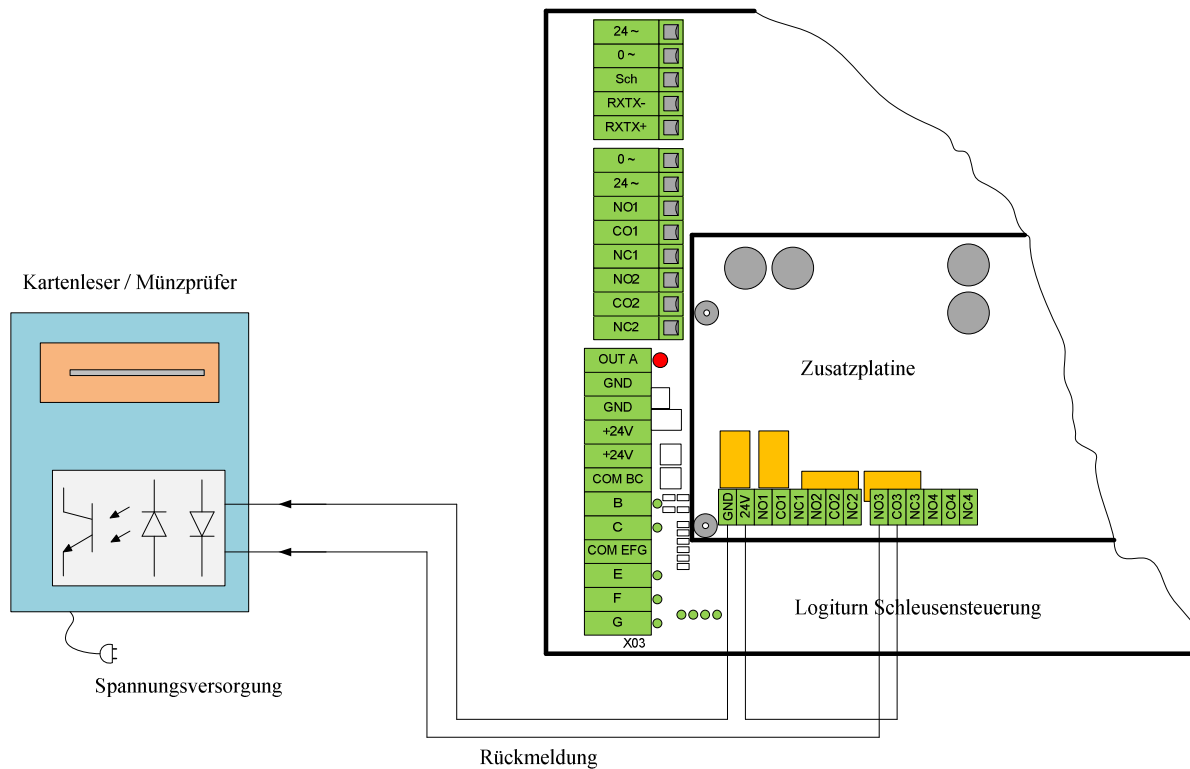
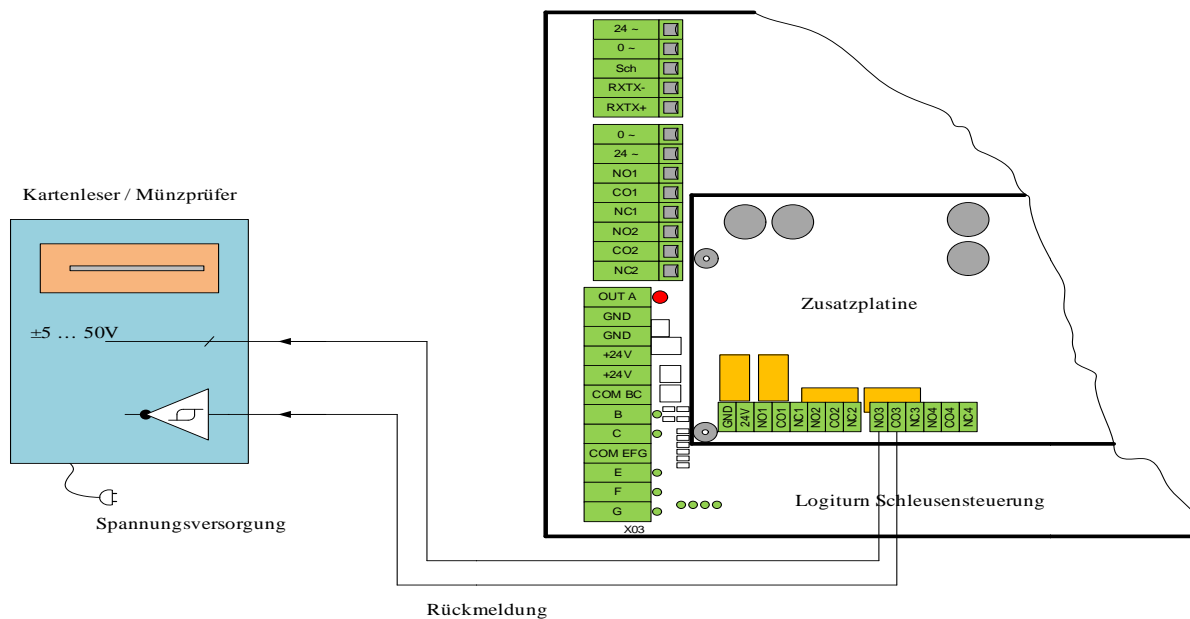


Fig. Peripheral device with potential-free feedback input



Connections +24V are available exclusively for the optical coupler. The supply of external devices such as card reader and similar is not permitted!



Rückmeldung

Fig. Peripheral device with voltage input for feedback

By setting the right parameters, the AMP1 and AMP2 signal light relays can also be used for feedback signals to card readers. The conditions for switching the relays on and off can be defined for different characteristics via parameters 28 and 29 (e.g., enabling/disabling releases, starting/stopping traffic, pulse signals, etc.).

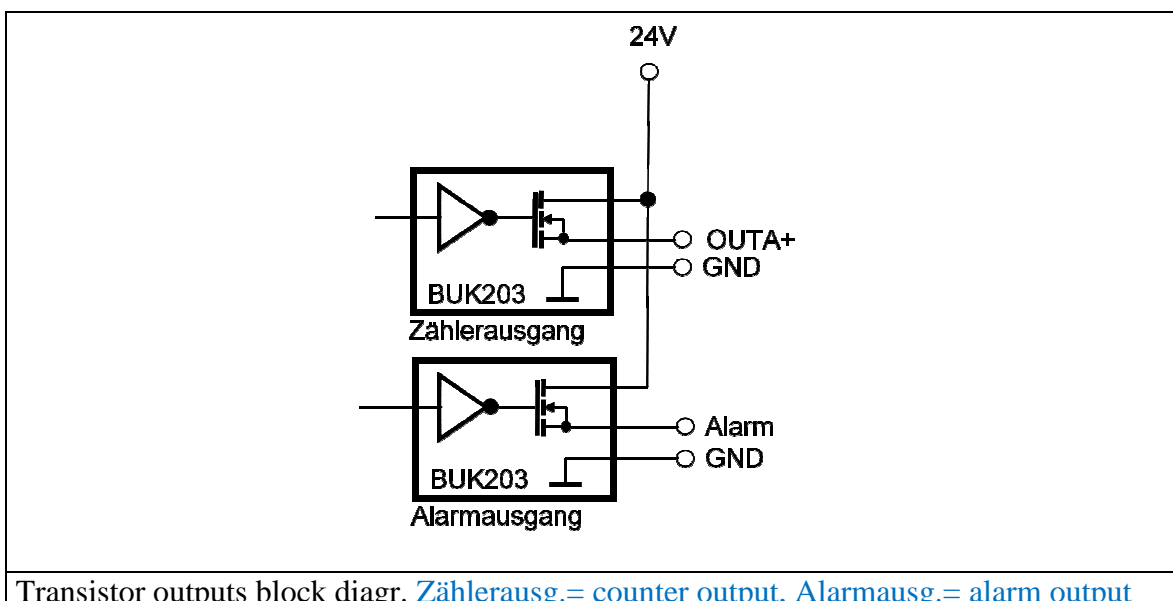
## Transistor outputs

The Logiturn basic control unit provides 2 transistor outputs.

**Out "A"** provides counter pulses and is used to control the external counter or to provide feedback signals. Out A can be set via parameter 25 and 26.

**Out "Alarm"** provides an operation ready message, different warning and alarm messages for the connection to the building control systems or to control electro-acoustic signal emitters. Out alarm can be set via parameter 27.

The output voltage is 24VDC. The output has a max. load of 250mA.



Transistor outputs block diag. Zählerausg.= counter output, Alarmausg.= alarm output

## 6.2 Expansion board

A detailed description of the expansion board's functions is available in a separate document: "Installation instructions for the expansion board".

## 6.3 Basic settings

Basic settings are made directly on the control unit board via an 8-digit DIP switch.

### 6.3.1 DIP switch settings

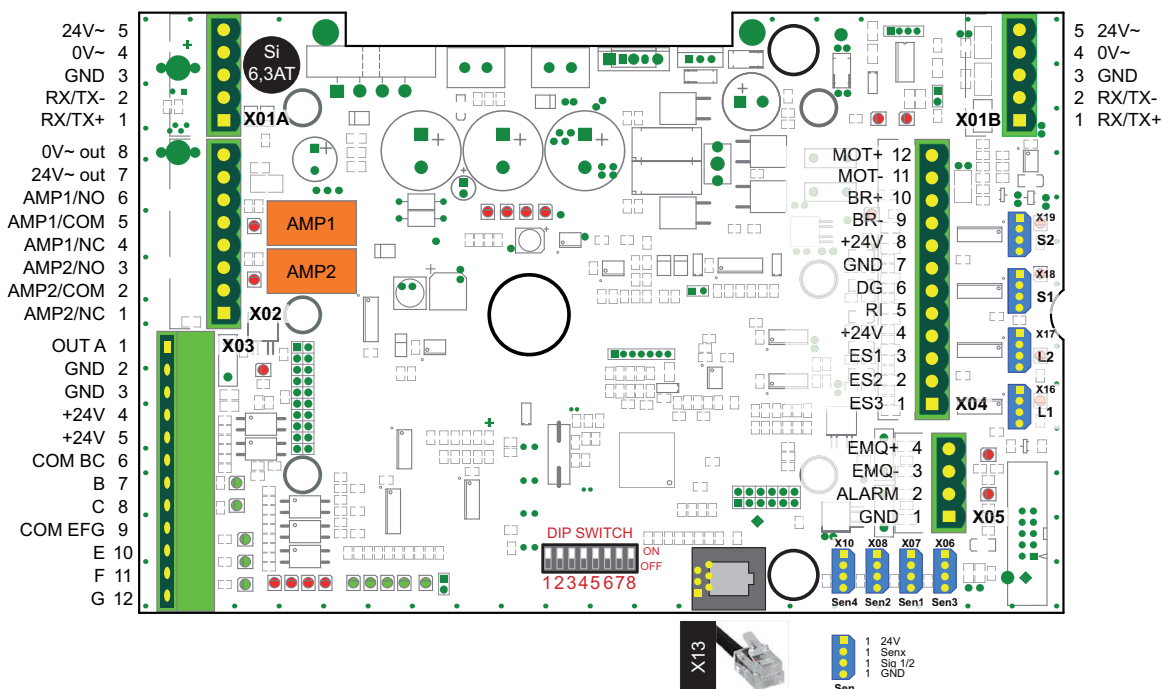


Fig. 1– Layout diagram, LOGITURN® III printed circuit board with marked DIP switches and plug connections

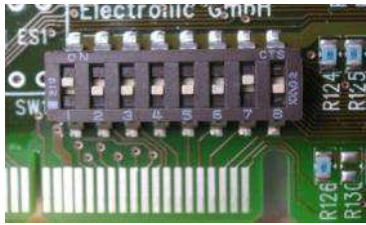
DIP	Description	Basic setting	Illustration DIP switch
1	ID 1 (value: 1)	0	
2	ID 2 (value: 2)	0	
3	ID 3 (value: 4)	0	
4	Locking direction during power failure	0/1 depends on mechanics	
5	Toggle configuration	0	
6	Reverse direction of rotation	0	
7	Initialization run active	1	
8	RM4 = alarm	0	



### 6.3.2 [DIP 1...3] Turnstile ID

The ID value must be set for any Logiturn turnstile that is connected with the control panel via a RS-485 data line or the software control panel Mini GTC. This ID no. is then entered in CP parameter 60.

As per BCD coding, the number is defined using the first three DIP switches:

ID no.	DIP1	DIP2	DIP3	Setting: ID1
BCD	I	II	IV	
0	0	0	0	
1	1	0	0	
2	0	1	0	
3	1	1	0	
4	0	0	1	
5	1	0	1	
6	0	1	1	
7	1	1	1	

Value 0 corresponds with switch setting OFF, value 1 with the setting ON



If this is set incorrectly, **no** communication with the turnstile control unit over the RS-485 interface is possible! The same IDs may **not** be used more than once within a communication branch.

### 6.3.3 [DIP 4] Changing the locking direction in power-off mode

Here, the direction of rotation is set during the initialization run (switching on the operating voltage). It must be adjusted depending on the installation position of the ratchet wheel properly, see Chapter 4.2.

### 6.3.4 [DIP 5] Toggle configuration from 2Arm (180°) to 4Arm (90°) division

On turnstiles with 2 barrier arms it is possible to switch over to operating mode with 4 barrier arms by toggling the configuration.

Using switch setting ON, a 2 arm turnstile is converted to a 4 arm turnstile.

The turnstile performs an initialization run after any configuration change.

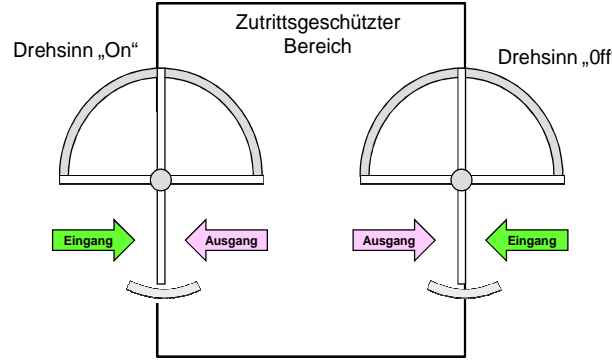
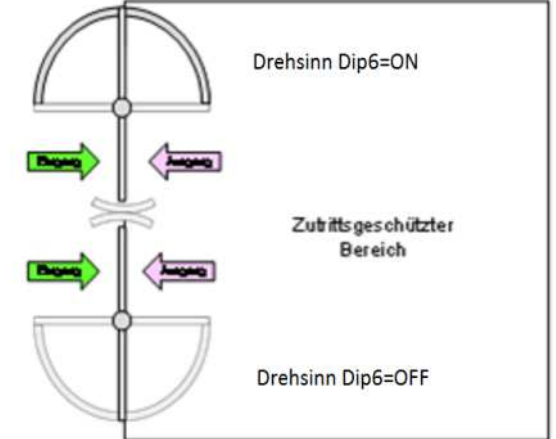
Practical use of this setting: It is possible to install a drive as spare part for a 2 arm turnstile or for a 4 arm turnstile.

### 6.3.5 [DIP 6] Direction of rotation

Many turnstile parameters apply to a predefined entry or exit direction. This direction assignment can be made using DIP switch 6 according to the following diagram. The definition of the entry and exit direction is usually determined with the entry into or exit from an access-protected area.



When changing the direction of rotation, it must be noted that the contact inputs and all feedback signals, lane signals and signal lights always refer to the actual entry or exit direction and thus must be appropriately controlled.  
This means that the right entry and exit direction for the location must be determined and DIP switch no. 6 set accordingly.

	
<p>Direction of rotation settings for access to a protected area</p>	<p>Direction of rotation settings for a mirror-image arrangement of a second turnstile</p>

**Drehsinn** = direction of rotation, **Zutrittsgeschützter Bereich** = access protected area

With a mirror-image arrangement of the turnstiles (back to back or arm mechanisms facing one another) a corresponding symmetrical behavior of the turnstiles can be achieved by setting the parameters of the two turnstiles identically and setting DIP switch no. 6 opposite.

The direction definitions for entry and exit must be set, even if a turnstile is used only for one traffic direction, e.g., one of the two turnstiles for the entry and the other for the exit of the protected area.

### 6.3.6 [DIP 7] Test and initialization runs

The test and initialization runs are executed immediately after activating the turnstile. They serve to test the function of all components and synchronize the incrementally working measuring system to the position of the turning arms. It should be ensured that the turnstile does not perform any movements after switching on, if DIP switch 7 is switched off. This is desirable if, for example, a new configuration or a new parameter set must be programmed in or tests performed. **For normal operation of the turnstile, DIP 7 must be activated ("ON").**

### 6.3.7 [DIP 8] RM4 = Alarm

The feedback relay RM4 (on the expansion board) is synchronized with alarm output 1 when "ON." The semiconductor outputs on the control board as well as the RM4 relay output are both available for the alarm output.

## **6.4 Parameter**

### **6.4.1 Parameter menu for turnstile**

The Logiturn turnstile control unit and the control panel can be adapted to many device configurations, operating modes and operating conditions using parameters.

Parameters are saved to EEPROM (non-volatile storage).

Parameters can either be set from the hardware control panel or from a PC via the "Mini-GTC" program (software control panel). Access to the parameter menu is protected via a code number.



The turnstiles are provided with parameter settings for average usage. It is the responsibility of the project lead or technician, who is performing commissioning, to adjust these values according to use to provide ideal comfort and highest protection against physical injuries.

### 6.4.2 Parameter values and functions

Input options: Min/Max specifies the input range for some parameters.

The Z column represents the tens digit and E the ones digit of the two-digit value.

The default function is usually selected with the tens digit number. The ones digit enables you to set individual options.

Some options are only for specific default functions. These can be listed separately in the tens digit using a dash.

The X entry is a placeholder for all available number combinations in this parameter.

Parameter	Unit	Min	Max	Value
<b>0 Parameter set ID</b>		0	255	
<b>1 Configuration</b>		0	99	
3-Arm, 4-Arm turnstile		0	99	12
2-Arm turnstile		0	99	22
<b>2 Max. speed 1</b>	rps	6	13	
<b>3 Max. speed 2</b>	rps	6	17	
<b>4 Max. motor speed</b>	rps	12	25	
<b>5 Min. motor speed</b>	rps	2	10	
<b>6 Acceleration time</b>	1/100 s	40	99	
<b>7 Start distance</b>	Pulses	1	20	
<b>8 Stop distance</b>	Pulses	10	99	
<b>9 Interval</b>	1/10 s	2	20	
<b>10 Repeat time</b>	1/10 s	20	50	
<b>11 Rated current</b>	1/10 A	0	25	
<b>12 Home position correction</b>	Pulses	30	70	
<b>13 Operating mode magnetic brake</b>				
Maximal mode			0	
Minimal mode			1	
Temperature sensor control			2	
<b>14 Division factor</b>		4	99	
<b>Par 15....19 have no function for the ECCO</b>				
<b>15 turnstile</b>				

Parameter	Unit	Basic function	Option
		Z	E
<b>20</b> Input B, release in entry direction	See par. 23		
<b>21</b> Input C, release in exit direction	See par. 23		
<b>22</b> Input E, release in entry direction	See par. 23		
<b>23</b> Input F, release in exit direction			
Emergency release (ER)		0	x
Permanent release (PR)		1	x
Toggle permanent release		1	4
Single release (SR)		2	x
Single release+1 (SR+1)	1)	3	x
SR with PR after 1.5 sec.		4	x
SR+1 with PR after 1.5 sec.	1)	5	x
Release confirmation	2)	6	0
Alarm state (2-arm/180°)		9	x
Single release for 7 sec.		2/3/4/5	1
Single release for 12 sec.		2/3/4/5	2
Single release for 30 sec.		2/3/4/5	3
Alarm state activated by closer		9	0
Alarm state activated by opener		9	1

1) Option EF+1 (values 30, 31, 32, 33, 50, 51, 52, 53) is not permissible in combination with the release confirmation.

2) No "time out" is permitted for individual releases of 7, 12, or 30 seconds in conjunction with the release confirmation.

<b>24</b> Input G, stop			
Cancels last single release		1	x
Cancels all single releases and discontinues PR		2	x
Permanent releases are discontinued while there is a signal		3	x
For entry and exit direction		x	0
For entry direction only		x	1
For exit direction only		x	2
<b>25</b> Counter output A			
Pulse at end of turning motion		1	x
Pulse at beginning of turning motion		2	x
Continuous signal during entire turning motion		3	x
For entry and exit direction		x	0
For entry direction only		x	1
For exit direction only		x	2
<b>26</b> Counter signal duration	1/100 s	10	99

		Basic function	Option	
Parameter	Unit	Z	E	
<b>27 Alarm output 1</b>				
No alarm		0	0	
An error or warning signal is present		1	0.5	
No error or warning signal is present		2	0.5	
An error signal is present		3	0.5	
No error signal present		4	0.5	
Emergency power operation		5	0.5	
Turnstile climb-over, movement sensor triggered		6	1.5	
Turnstile climb-over, with IR sensor		7	1.5	
Turnstile climb-over, with additional sensors		8	1.5	
Turnstile home position not reached after 1min.		9	0	
Turnstile home position reached prior to expiry of 1min		9	1	
Continuous signal		x	0	
Interval signal ("flashing")		x	1	
5-second pulse		x	2	
Interval signal ("flashing") for 5 sec.		x	3	
10-second pulse		x	4	
Interval signal ("flashing") for 10 sec.		x	5	
<b>28 Signal light relay output AMP1</b>	See par. 33			
Feedback in entry direction during passing incl. sensor*		8	1	
<b>29 Signal light relay output AMP2</b>	See par. 33			
Feedback in exit direction during passing incl. sensor*		8	1	
<b>30 Feedback relay output RM1</b>	See par. 33			
<b>31 Feedback relay output RM2</b>	See par. 33			
<b>32 Feedback relay output RM3</b>	See par. 33			
<b>33 Feedback relay output RM4</b>				
Function / Switch-on condition	Switch-off condition			
During entry movement	Movement ended	0	0	
Start of entry movement	Pulse ended	0	x	
During exit movement	Movement ended	1	0	
Start of exit movement	Pulse ended	1	x	
After entry movement	Timing	2	x	
After exit movement	Timing	3	x	
Inhibit on: Start entry movement	Release	4	0	
Inhibit on: End entry movement	Release	4	1	
Inhibit off: Start exit movement	Release	5	0	
Inhibit off: End exit movement	Release	5	1	
Release entry	End movement or release	6	0	
Rel. ent. + release authorization	As above	6	1	
Release exit	As above	7	0	
Rel. exit + release authorization	As above	7	1	
Error or warning signal	No signal	3)	8	0

3) The parameter value 80 does not apply for parameter 28+29

Auto-stop activated	Auto-stop reset		9	0
---------------------	-----------------	--	---	---

			Basic function	Option
Parameter	Unit		Z	E
<b>33 Feedback relay output RM4</b> (Continuation)				
<b>Function / Switch-on condition</b>	<b>Switch-off condition</b>			
Pulse with 0.1...0.2 sec.			0/1/2/3	1
Pulse with 0.2...0.3 sec.			0/1/2/3	2
Pulse with 0.3...0.4 sec.			0/1/2/3	3
Pulse with 0.4...0.5 sec.			0/1/2/3	4
Pulse with 0.5...0.6 sec.			0/1/2/3	5
Pulse with 0.6...0.7 sec.			0/1/2/3	6
Pulse with 0.7...0.8 sec.			0/1/2/3	7
Pulse with 0.8...0.9 sec.			0/1/2/3	8
Pulse with 0.9...1.0 sec.			0/1/2/3	9
<b>34 IR autostart</b>	Direction:		Entry	Exit
No autostart			0	0
Autostart with release			1	1
Autostart if no autostop			2	2
<b>35 IR start criteria</b>	Direction:		Entry	Exit
IR sensors are not evaluated			0	0
K1: Triggers only, if person is in entry area			1	1
K2: Triggers only, if no person is in exit area			2	2
Apply K1 and K2			3	3
<b>36 Closing criteria</b> par. has no function for the ECCO turnst.	Direction:		Entry	Exit
<b>37 Alarm output 2 (output EM)</b>	Place:		Tens	Ones
Not available for the ECCO turnstiles			0	0
<b>38 Braking profile</b>	Place:		Tens	Ones
Gradient of the target brake ramp in increments of 6.....14	Steps		1	1
<b>39 Battery operation</b>				
End normal mode immediately			0	x
Normal mode for fixed time			1	x
Fixed time operation, exit = PR			2	x
Fixed time operation, entry = PR			3	x
Fixed time operation, EN+EX = PR			4	x
Alarm state			5	0
No time limit			1/2/3/4	0
Factor per 5 minutes			1/2/3/4	1-9
<b>40 par. 40....47</b> have no function for the ECCO turnstiles				
<b>48 Signal light model</b>				
	Display assignment	Signal type	Z	E
Slots L1 and L2 deactivated		V1,V2	0	0
2 direction-related signal lights	normal	V2	3	X
2 direction-related signal lights	inverted	V2	4	X
With prompt symbol	normal	V2	5	X
With prompt symbol	inverted	V2	6	X
2 direction-related signal lights		V1	7	X
Release display with stop signal		V1,V2	X	1
Stop signal only for alarm signal		V1,V2	X	2

49 Lane signal model	Display assignment	Signal type	Basic function	Option
			Z	E
S1 and S2 lane signal slots deactivated		V2	0	0
Direction assignment of arrow symbol	normal	V2	1	X
Direction assignment of arrow symbol	inverted	V2	2	X
Basic setting of lane blocked in both directions		V2	X	0
Basic setting of preferred direction in entrance direction		V2	X	1
Basic setting of preferred direction in exit direction		V2	X	2
Basic setting of lane coordinated in both directions		V2	X	3

Signal type V1 has a red and green lighted surface

Signal type V2 has a green arrow symbol and a red X as a blocked symbol

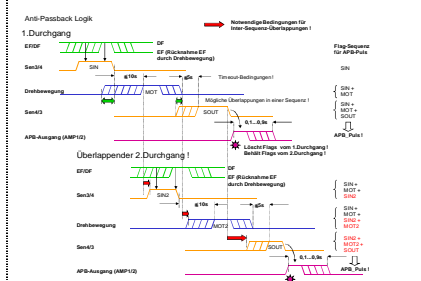
Parameter for the expansion board		Basic function	Option
Parameter	Unit	Z	E
<b>50 Input K, special function</b>			
Lane signal preferred direction in entrance direction		7	0
Lane signal preferred direction in exit direction		7	1
Alarm setting activated by closing contact		9	0
Alarm setting activated by opening contact		9	1
<b>51 Input L, special function</b>			
Lane signal preferred direction in entrance direction		7	0
Lane signal preferred direction in exit direction		7	1
Alarm setting activated by closing contact		9	0
Alarm setting activated by opening contact		9	1
<b>52 par. 52.....57 not in use</b>			
<b>58 Event Recording</b>			
<b>59 Event Recording 1</b>			

### 6.4.2.1 Anti Pass-Back Logic

Represents a logic that generates the feedback "passage finished" only when both the turnstile was rotated and the person has gone through the sensors in the same time frame. For this function additional sensors are required, which must be installed in the turnstile.

Practical use: when determining via the software of the reading system undoubtedly that a person is within the protected area, or outside, e.g. time tracking, emergency evacuation, etc.

Feedback via relay AMP1 for entry direction and AMP2 for exit direction, can be set via **Parameter 28 and 29 with value 81**

Item no.	Component	Illustration
2PV14-N	Anti Pass-Back Logic	



### 6.4.3 Factory settings

**ECCO FULL-HEIGHT TURNSTILE**



Par	Designation	Pri	Unit	4-arm (90°)	3-arm (120°)	2-arm (180°)
0	Parameter set ID	9	-	99	99	99
1	Configuration	5	-	12	12	22
2	Max. speed 1	3	rps	09	11	11
3	Max. speed 2	3	rps	17	17	17
4	Max. motor speed	3	rps	25	25	25
5	Min. motor speed	3	rps	5	5	5
6	Acceleration time	3	1/100 sec.	50	50	50
7	Start distance	1	Pulses	1	1	1
8	Stop distance	5	Pulses	95	95	95
9	Interval	3	1/10 sec.	3	3	3
10	Repeat time	5	1/10 sec.	30	30	30
11	Rated current	3	1/10A	15	15	15
12	Home position correction	3	Pulses	50	50	50
13	Operating mode magn. brake	3	-	2	2	2
14	Division factor	5	-	18	18	18
15	Not in use	1	1/10 sec.	0	0	0
16	-----	1	°	0	0	0
17	-----	1	°	0	0	0
18	-----	5	Pulses	0	0	0
19	-----	1	-	0	0	0
20	Input B (entry direction)	3	-	20	20	20
21	Input C (exit direction)	3	-	20	20	20
22	Input E (entry direction)	3	-	10	10	10
23	Input F (exit direction)	3	-	10	10	10
24	Input G (stop entry)	3	-	20	20	20
25	Counter output A	3	-	21	21	21
26	Counter signal duration	3	1/100 sec.	20	20	20
27	Alarm output	3	-	0	0	0
28	Relay output AMP1	3	-	0	0	0
29	Relay output AMP2	3	-	10	10	10

**ECCO FULL-HEIGHT TURNSTILE**


Par	Designation	Pri	Unit	4-arm (90°)	3-arm (120°)	2-arm (180°)
30	Relay output RM1	3	-	0	0	0
31	Relay output RM2	3	-	10	10	10
32	Relay output RM3	3	-	80	80	80
33	Relay output RM4	3	-	90	90	90
34	IR autostart	3	-	11	11	11
35	IR start criteria	3	-	0	0	0
36	Not in use	3	-	0	0	0
37	-----	3	-	0	0	0
38	Braking profile		-	11	11	11
39	Battery operation (emergency power mode)	3	-	0	0	0
40	Not in use		-	0	0	0
41	-----		-	0	0	0
42	-----		-	0	0	0
43	-----		-	0	0	0
44	-----		-	0	0	0
45	-----		-	0	0	0
46	-----		-	0	0	0
47	-----		-	0	0	0
48	Signal light model	3	-	0	0	0
49	Lane signal model	3	-	0	0	0
50	Input K, special function	3	-	0	0	0
51	Input L, special function	3	-	0	0	0
52	Reserve			0	0	0
53	-----			0	0	0
54	-----			0	0	0
55	-----			0	0	0
56	-----			0	0	0
57	-----			0	0	0
58	Event recording 1	5	-	255	255	255
59	Event recording 2	5	-	255	255	255

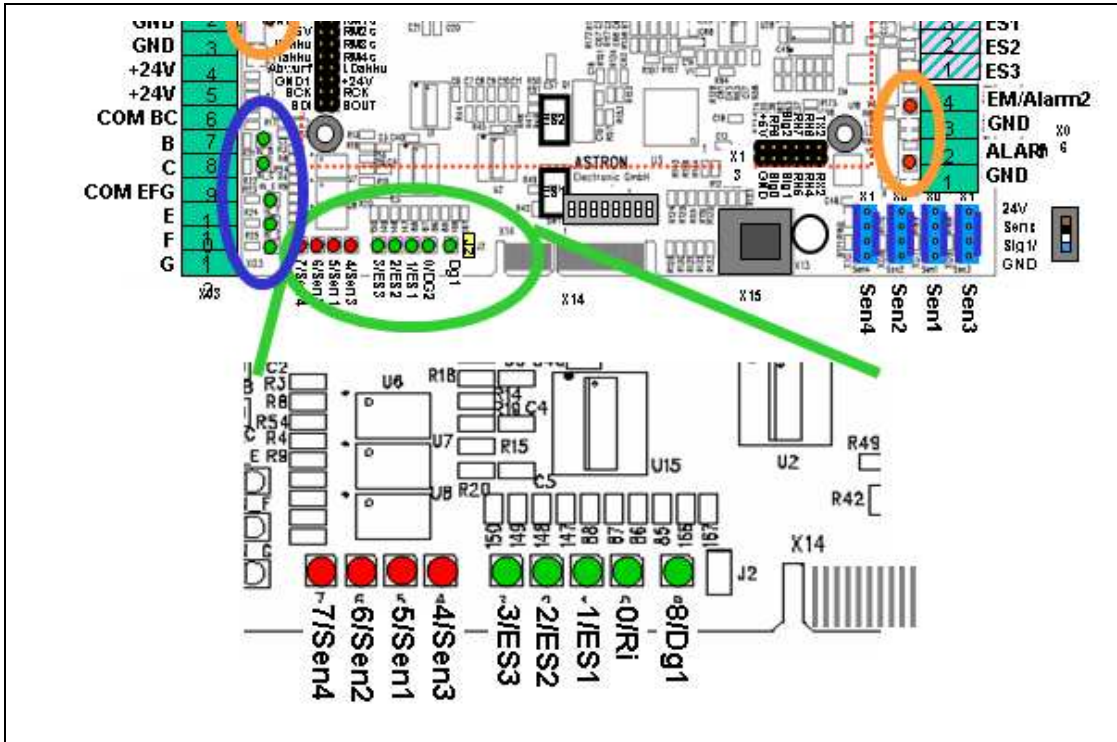
Pri: Level of access authorization (see hardware control panel description)

Parameter lists with factory settings are included in the turnstile housing. Any changes to parameters should be entered into the list by hand.

## 6.5 Errors and warnings

### 6.5.1 LED error indicator:

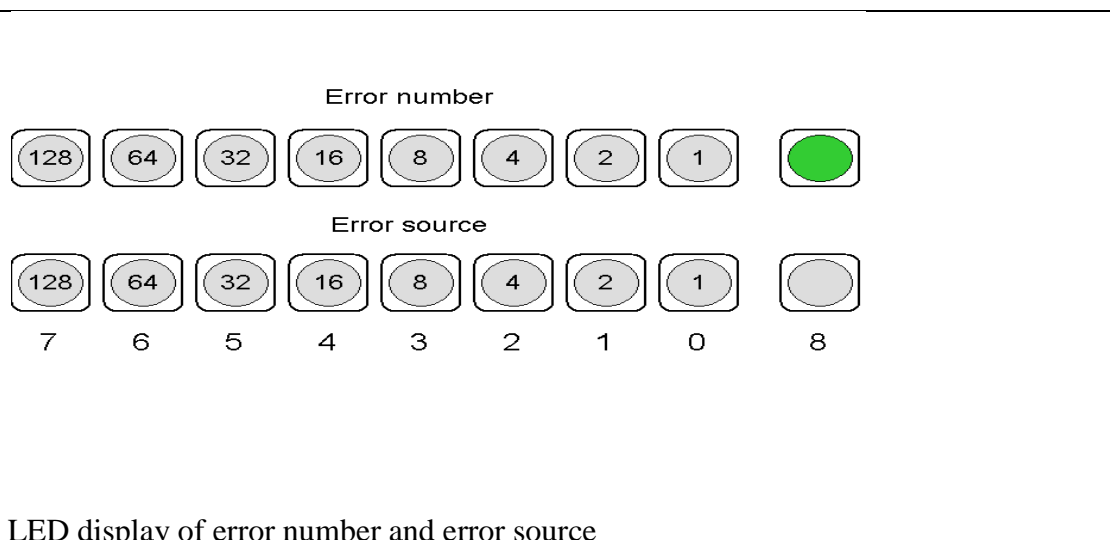
When an error occurs, the status LEDs (green area) indicate the error number and error source in binary code, alternating in a four-second cycle.



Status LEDs

The error number and source are determined by adding the numbers indicated by the lighted LEDs according to the following diagram:

LED no. 8 lit = error number displayed,  
LED no. 8 not lit = error source is displayed.





The errors are also represented directly in plain text on the control panel display and are therefore easier to recognize than directly at the control unit.

## 6.5.2 Error types

The Logiturn turnstile control unit interrupts operation in case of the following errors:

Type	Description	Error		
		No.	Source	To-do
<b>ERR_PROG</b>	<b>Program error</b>	<b>0</b>		A
	Internal system error		1-5	A
	Defective motor		6	G
	Internal system error		7-15	A
<b>ERR_INIT</b>	<b>Initialization error</b>	<b>1</b>		
	Invalid board ID (>99999999)		1	A
	Timeout initialization run		2	B/L
	Timeout release run during initialization		3	B
	Undervoltage detection triggered		10	J
<b>ERR_PAR</b>	<b>Parameter error</b>			
	Invalid configuration	<b>2</b>	1	A
	Error when saving parameter in flash		250	A
	Error during loading parameter from flash		255	A
<b>ERR_OP</b>	<b>Error during operation</b>	<b>3</b>		
	More than 100 impulse movements during locked turnstile		2	C
<b>ERR_ES</b>	<b>Error of end sensors ES_1, ES_2 or ES_3</b>	<b>4</b>		
	Error ES_2 – ES2 defective		1	M
	No ES_2 signal after 2 rotations - ES2 defective		2	M
	No ES_1 signal after 4 edges of ES_2-ES1 defective		3	M
	ES 1 defective		4	M
	Neither ES1 nor ES2 flanks are detected, both ES defective		5	A/M
	Pulse number too high for 1 rotation movement ( > 750)		6	C
<b>ERR_DG</b>	<b>Error of the speed detector or direction sensor</b>	<b>5</b>		
	No signal change from direction sensor during CW/CCW pulses in initialization run		1	A
	Problem with speed detector		2	A
	More than 12 flanks detected during rotation movement		3	C
	Evaluation only during manufacturers final inspection		4	-
	Evaluation only during manufacturers final inspection		5	-
	Evaluation only during manufacturers final inspection		6	-
<b>ERR_ZR</b>	<b>Gear belt broken</b>	<b>6</b>		
	No pulses, no end sensors, low motor current		1	D
<b>ERR_MOT</b>	<b>Motor error</b>	<b>7</b>		
	Motor short circuit (cutoff by short circuit hardware)		1	E/A
	Motor overcurrent (with CW movement) during initialization		2	F
	Motor overcurrent (with CCW movement) during initialization		3	F
	No or too little motor current (motor might not be connected)		4	G
	Motor driven in CCW direction only (H bridge AH/BL poss. defective)		5	A
	Motor driven in CW direction only (H bridge BH/AL poss. defective)		6	A

	Direction of rotation is wrong, only during manufacturers final inspection		7	H
<b>ERR_IMOT</b>	<b>Error of motor current measurement</b>	<b>8</b>		
	MB test: abnormally high motor current measured		1	A
<b>ERR_MB</b>	<b>Magnetic brake error</b>	<b>9</b>		
	The magnetic brake yields to the motor power!		1	I
	Indicates the power at which the brake fails in %		xx	
<b>ERR_BLOCK</b>	<b>Turnstile lock</b>	<b>10</b>		
	Little pulse, no end sensors, high motor current in CW		1	F
	Little pulse, no end sensors, high motor current in CCW		2	F
	During release movement in initialization run		3	F/K
			4	

CW.... Clockwise rotation direction

CCW...Counterclockwise rotation direction

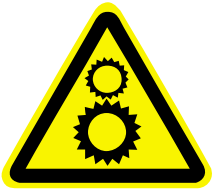
## 6.5.3 Troubleshooting

When an error occurs, the turnstile must be switched off and then back on after 15 seconds. You can also press the "RESET" button on the operating panel to restart. The turnstile then performs the test (diagnostic) and initialization runs. Please note that the error message must be evaluated by a visual check in any case. If the error message recurs, proceed according to the following information (see "To-do ID from the error type list").

### 6.5.3.1 To-do lists






To-do	REMEDIAL ACTION
A	Defective drive; if repeated replace drive
B	Repeat initialization run and ensure that the turnstile mechanism can turn freely.
C	General error message during operation. The results of the test run give more detailed information as to the cause of the error.
D	Check the gear belt and replace if necessary.
E	Motor causes short circuit, replace drive motor if error message repeats
F	The turning arms or gear mechanism is blocked. Switch off the turnstile and turn the arms manually. Possible causes of the error: Floor support is difficult to turn, height of turnstile incorrectly adjusted during installation (mechanism cannot move freely on the pin). Replace the mechanism, if it is difficult to turn or locks up.
G	Check the cable connection with the drive motor. If no problem is found, replace the drive motor.
H	Reverse motor cable polarity.
I	Check cable connection to magnetic brake, replace drive motor unit with magnetic brake, if necessary.
J	Supply lines, check ratio of cross section to line length. Check contacts on the power supply, the supply voltage drops below the critical value during loads.
K	DIP switch 4 is wrongly set; refer to Chapter 4.2.
L	Bridge between ES1 and ES2 missing on 3*120° turnstile
M	Check the respective end switch and replace, if required.

Should the gearbox cover plate be removed, making moving parts accessible, the following applies:



**Danger:** Danger caused by rotating parts. Disconnect the device from the power supply when working in close proximity of these parts.

### 6.5.3.2 Replacement parts

Item no.	Component	Illustration
3P505-N 3P507-N 3P509-N	Worm gear Logiturn ECCO 4*90° Worm gear Logiturn ECCO 3*120° Worm gear Logiturn ECCO 2*180°	
3P040-N	Drive motor with gear pin and magnetic brake	
31057	Proximity switch	
3P024-N	Gear belt LT incl. Allen wrench	
3P025-N	Gear belt LT	
3P530-N	Gear belt 960 ECCO 30mm belt width	



### 6.5.4 Warnings

Warning messages can be seen as evidence of unusual operating conditions, the function of the turnstile is carried out without restriction. The warning message includes the warning number and source of the warning, thus indicating exactly what triggered the warning. The warning message is displayed cyclically; this display can be switched off by pressing the reset button. Warnings are displayed on the hardware control panel or at the software user interface.

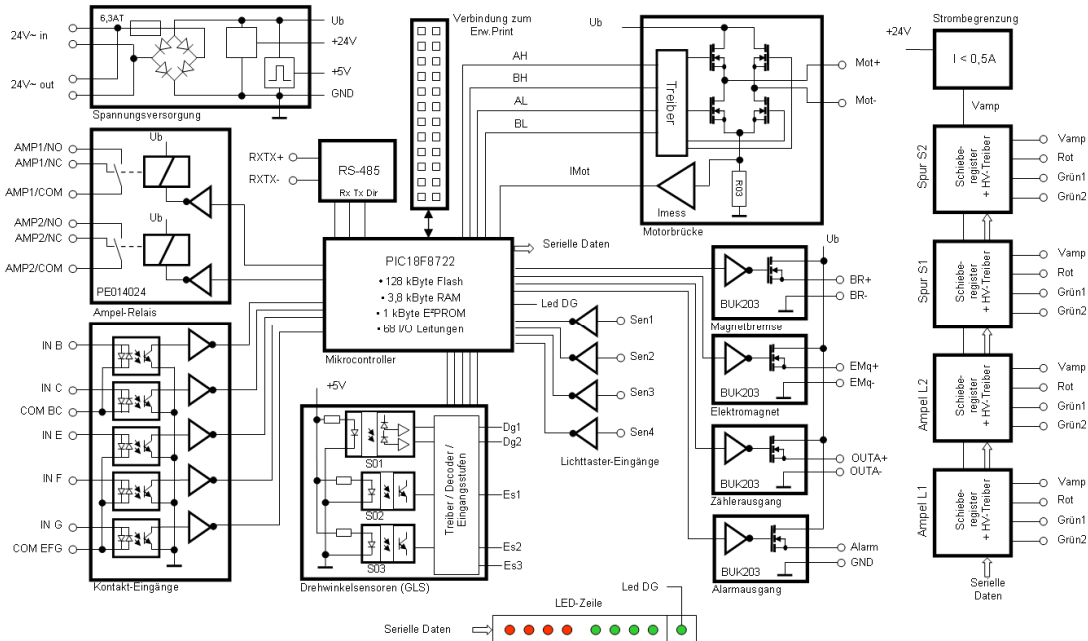
No / Src	Warning / Source	Explanation
5 5 / P.no. 5 / 60	Parameter warning / parameter number Invalid par. no.	Parameter outside limits or invalid (P0 - P59) or parameter no. too large >60
6 6 / 1	Internal warning	Invalid error number ( $\geq 16$ )
8 8 / 1	Emergency power operation	BATTERY switched on
9	No initialization run	Init. run deactivate DIP 7=OFF Turnstile is not ready for operation
14	Device is externally powered	No voltage supply, turnstile is manually powered.
15 / 1	Blockage	Turnstile blockade with alarm state. Turnstile cannot be in escape route position.



## 7 Hardware controls

### 7.1 Turnstile control unit

#### 7.1.1 Block schematic diagram



#### Logiturn control board HW7 block diagram

Verbindung zum Erw. Print = connection to expansion board

Strombegrenzung = current limiting, Rot = red, Grün=green,

Spannungsversorgung = voltage supply, Erw. Print = expansion board, Serielle Daten = serial data,

Motorbrücke = motor bridge,

Treiber/Decoder/Eingangsstufe = driver/decoder/input level

Lichttaster Eingänge = light sensor inputs

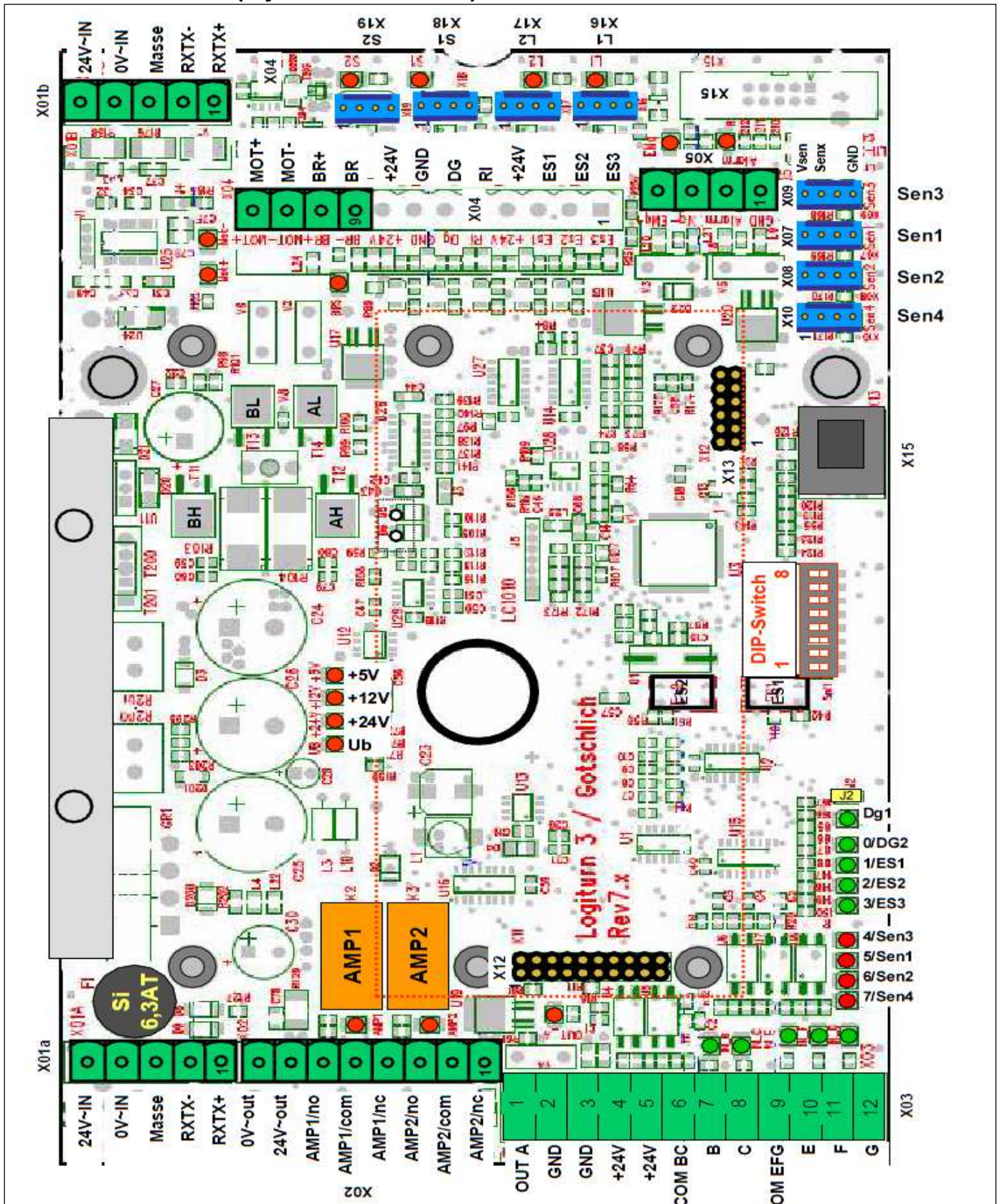
Magnetbremse = magnetic brake, Elektromagnet= electromagnet, Zaehlerausgang=counter output,

Alarmausgang = alarm output,

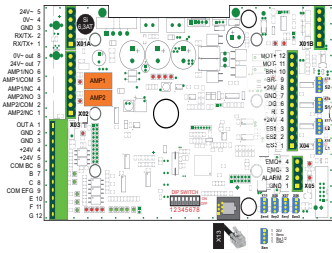
Kontak-Eingaenge = contact inputs, Drehwinkelsensor= angle position sensor, Alarmausgang=alarm output,

Spur=lane

### 7.1.2 Control board (layout for HW rev.4)



Masse = Ground = GND



Assignment of the sensor connections sensor 1 to sensor 4

### 7.1.3 Connection terminals

The following table lists all types of inputs and outputs leading out from the metal housing of the turnstile for power supply or signal and communications lines.

#### External terminals:

Terminal	No.	Connection	Function	Note
<b>X01a,b</b>	1	RTX+	Interface RS485	
	2	RTX-	Interface RS485	
	3	Ground	Ground connection	Shield connection
	4	0V~	Power supply	
	5	24V~	Power supply	
<b>X02</b>	1	AMP2/NC	Signal light relay 2	Normally closed
	2	AMP2/COM	Signal light relay 2	Contact root
	3	AMP2/NO	Signal light relay 2	Normally open
	4	AMP1/NC	Signal light relay 1	Normally closed
	5	AMP1/COM	Signal light relay 1	Contact root
	6	AMP1/NO	Signal light relay 1	Normally open
	7	24V ~ out	Power supply	For signal lights, etc.
	8	0V ~ out	Power supply	For signal lights, etc.
<b>X03</b>	1	OUTA	Counter output	Transistor output
	2	GND	Optical coupler supply	
	3	GND	Optical coupler supply	
	4	+24V	Optical coupler supply	
	5	+24V	Optical coupler supply	
	6	COM BC	Reference point logical inputs	Shared reference point for B/C
	7	B	Release input Entry direction	Optical coupler input bipolar
	8	C	Release input exit direction	Optical coupler input bipolar
	9	COM EFG	Reference point logical inputs	Shared reference point for E/F/G
	10	E	Release input Entry direction	Optical coupler input bipolar
	11	F	Release input Exit direction	Optical coupler input bipolar
	12	G	Release input Stop function	Optical coupler input bipolar



**Internal terminals:**

Terminal	No.	Connection	Function	Note
<b>X04</b>	1	Es3	Ext. end sensor 3	24V entry
	2	Es2	Ext. end sensor 2	24V entry
	3	Es1	Ext. end sensor 1	24V entry
	4	+24V	Sensor power supply	
	5	RI	Input direction	24V entry
	6	DG	Input pulse generator	24V entry
	7	GND		
	8	+24V	Sensor power supply	
	9	BR-	Magnetic brake	Ground connection
	10	BR+	Magnetic brake	Semiconductor output
	11	Mot-	Motor connection	H motor bridge
	12	Mot+	Motor connection	H motor bridge
<b>X05</b>	1	GND	Alarm output	Ground connection
	2	Alarm	Alarm output	Semiconductor output
	3	EMq-	Holding magnet	GND connection for EM
	4	EMq+		Semiconductor output
<b>X07</b>	1	+24V	IR sensor 1	
	2	Sen1		Sensor input
	3	-		
	4	GND		
<b>X08</b>	1	+24V	IR sensor 2	
	2	Sen2		Sensor input
	3	-		
	4	GND		
<b>X09</b>	1	+24V	IR sensor 3	
	2	Sen3		Sensor input
	3	-		
	4	GND		
<b>X10</b>	1	+24V	IR sensor 4	
	2	Sen4		Sensor input
	3	-		
	4	GND		
<b>X16</b>	1	Vamp	<b>Signal light L1</b>	+24V, I <sub>max</sub> = 0.5A
	2	Red	Symbol red X	Switch outputs
	3	Green1	Symbol green <	against GND
	4	Green2	Symbol green >	
<b>X17</b>	1	Vamp	<b>Signal light L2</b>	+24V, I <sub>max</sub> = 0.5A
	2	Red	Symbol red X	Switch outputs
	3	Green1	Symbol green <	against GND
	4	Green2	Symbol green >	
<b>X18</b>	1	Vamp	<b>Lane signal S1</b>	+24V, I <sub>max</sub> = 0.5A
	2	Red	Symbol red X	Switch outputs
	3	Green1	Symbol green <	against GND
	4	Green2	Symbol green >	
<b>X19</b>	1	Vamp	<b>Lane signal S2</b>	+24V, I <sub>max</sub> = 0.5A
	2	Red	Symbol red X	Switch outputs
	3	Green1	Symbol green <	against GND
	4	Green2	Symbol green >	



## 7.2 Expansion board

An expansion board is available for tasks such as additional feedback outputs, an RS-232 interface and an emergency battery power supply.



A detailed manual is available for the installation and commissioning. **"Logiturn expansion board"**

Item no.:	Designation	Note
2P404-N	EXPANSION BOARD M	4 relay outputs, Battery charger and RS-232
2P405-N	EXPANSION BOARD E	4 optical coupler outputs, Battery charger and RS-232
8P416-N	UPS 2.1Ah for LOGITURN 2	Includes 2P404-N, and emergency power of 4h
8P406-N	UPS 10Ah for LOGITURN 2	Includes 2P404-N, and emergency power of at least 10h
3P321	BUFFER BATTERY 2.1Ah for LOGITURN 2	Replacement battery pack
3P330	BUFFER BATTERY 10Ah for LOGITURN 2	Replacement battery pack

## 7.3 Control panel

See 5.4.2



The detailed operating instructions **"Hardware control panel for turnstiles"** are available for information on the installation and commissioning of the HWCP.  
 A separate "User manual" is available for the operating personnel to provide information for operating.

## **8 General troubleshooting**

### **8.1 Semiconductor outputs are not functioning:**

The PROFETs (transistors for counter outputs, e-magnets, and alarm outputs) may be deactivated → Check connected devices and wires for short circuit or overload (max. 0.25A)!

### **8.2 Problems during turnstile startup**

Error messages or unexpected rotations occur during the diagnostic and test runs:

- Read error message via display on the control panel or via the LEDs on the control board, acc. to 6.1.5. Evaluate error according to description under 6.5.2 and proceed acc. to To-do list 6.5.3.1
- Check whether the parameter set, particularly the configuration set up in the parameter set, is correct for the device hardware. The control unit can be operated only with the corresponding mechanism. If that is not possible, the control must be replaced.
- The turnstile does not stop in the expected zero position. Check, if the turnstile flange is correct, bolt acc. to installation step 13.

### **8.3 Problems with communication**

#### **8.3.1 RS-485 interface**

Gate offline (turnstile does not respond):

- ID on DIP switch is set incorrectly. See 6.3.2
- ID on software or hardware control panel is set incorrectly. Par. no. 60 on the control panel is responsible.
- Baud rate is wrongly set (only possible on SW control panel), visible and correctable in service mode.
- COM port is wrongly set (only possible on SW control panel).  
Is visible and correctable in service mode. The COM port must be adjusted to every port to which the RS-232/RS-485 or USB/RS-485 converter was installed. Visible in the device manager.
- RS-485 RX and TX data line connections are reversed (cables must be properly connected to the right terminals).
- Interface converter or control panel connected with 24 VAC voltage instead of the data lines. → Correct wiring; the converter or control panel interface may already be damaged.
- Two control panels are connected to one turnstile. Only one CP per turnstile is permissible.

#### **8.3.2 Problems with the test runs**

Motor test and endurance run are not functioning:

Turnstile test mode has been canceled (e.g., with a reset). Switching on the "Service" operating mode and entering the respective test run is required.

## 9 CE Declaration of Conformity

### Type of Machinery

Full-height turnstiles of the product designation:

**ECCO ARENA.GATE Single, ECCO ARENA.GATE Double, ECCO 90 xxx,  
ECCO 120 xxx, ECCO 180 xxx, ECCO ARENA.**

According to specifications on the type label

**Serial no.: 2130001.....2132000 = order number- 01.....99 = sequential no.**

**Year of manufacture: acc. to type plate**

**Date of delivery: acc. to type plate or delivery note**

The manufacturer:

**Karl Gotschlich Maschinenbau GesmbH**

Feistlgasse 6, 1210 Vienna, Austria

Phone 0043/1/259 65 18

Fax 0043/1/259 65 18 6

The signee hereby declares that the product named above, in the design introduced into circulation by us, corresponds to the provisions listed below as of the delivery date. This declaration is not valid if changes have been made without prior consultation with us. The above mentioned products have been labeled with the CE marking on the turnstile type label.

### Applied harmonized guidelines and standards:

Appendix I of the EU Machinery Directive 2006/42/EG idgF

Appendix I of the Machinery Safety Regulation (MSV 2010) BGBl. II No. 282/2008 idgF.

EMC Directive 2004/108/EC

Low Voltage Directive 2006/95/EC

EN ISO 12100, EN ISO 13850, EN ISO 13857, EN 349, EN 953, EN 954-1, EN 1088,  
EN 60204-1/07 (Pkt. 5,6,7 u 10), DIN EN 292-1, DIN EN 292-2, DIN EN 292-2/A1, DIN EN 1037, DIN  
EN 1050, DIN EN 55011, DIN EN 60335-1, DIN EN 61000-3, DIN EN 61000-3-2, DIN EN 61000-3-3,  
DIN EN 61000-6-1, DIN EN 61000-6-2, DIN EN 61000-6-3, DIN EN 61000-6-4, EN 55014-1, EN 55014-  
2, protection category IP44 of all line voltage parts and IP43 of housing acc. to EN 60529

Karl Gotschlich Maschinenbau GesmbH



Ing. Andreas Wotke  
Managing Director

Vienna, January 15, 2013